



Pacific Island Network — Featured Resource

Hawaiian Hoary Bat — 'Ope'ape'a

Description: The Hawaiian hoary bat (*Lasiurus cinereus semotus*) is the only terrestrial mammal native to Hawaii. Ancient Hawaiians called this solitary and elusive bat 'Ope'ape'a, as its wings reminded them of the half-leaf remaining on a taro stalk after the top half has been removed for cooking. Although present in Hawaii for many centuries, the earliest recorded sighting was December 8, 1816, when one was shot near Pearl Harbor, O'ahu. It is believed the Hawaiian hoary bat is a relative of the North American hoary bat, which originally migrated at least 2000 miles from the mainland.

This Hawaiian subspecies is distinctly small at 12-20g. They are typically a mixture of dark browns and grays, tinged with silvery-white, which produces a grizzled or "hoary" effect. This bat may also exhibit reddish hues. Similar to other *Lasiurine* species, the Hawaiian hoary bat is covered in thick fur over its entire body and dorsal surface of the tail membrane.

The hoary bat has been observed in essentially every habitat type in the Hawaiian Islands, making it difficult to associate them with particular habitats. It is presumed to be a solitary foliage rooster, but some bats have been observed using man-made structures, lava tubes, and rock cracks and crevices. Hawaiian hoary bats use echolocation to locate insect prey. They will consume both native and non-native insects, including beetles and moths.

Inventories: Hawaiian hoary bats were historically found on all main islands, but today the largest populations are believed to occur on the islands of Hawai'i and Kaua'i. Currently, researchers are using MiniBat-III acoustic detectors to determine presence of bats in Hawaiian National Parks. This includes Haleakalā NP, Maui, and Kalaupapa NP, Moloka'i, as well as the Big Island's Hawai'i Volcanoes NP, Pu'u'honua o Hōnaunau NHP, Kaloko-Honokōhau NHP, and Pu'ukohola Heiau NHS.

Monitoring: Development of a monitoring protocol for this subspecies is currently in progress. Monitoring techniques will be researched and tested during the next year,

in order to complete a monitoring protocol in 2007. Monitoring objectives will focus on assessing presence and distribution of bats in the Hawaiian National Parks, relative levels of bat activity and occurrence, and general habitat associations.

Data: The 'Ope'ape'a has been documented in NPSpecies for most of Hawaii's National Parks. A Hawaiian hoary bat recovery plan was developed by the U.S. Fish and Wildlife Service, which seeks to downlist this species after selected populations have remained stable or increasing for 5 consecutive years. The State Department of Land and Natural Resources maintains a Hawaiian Hoary Bat Research Cooperative in partnership with the US Geological Survey, non-profit organizations, and private landowners.

Status & Trends: The Hawaiian hoary bat was listed as an endangered species in 1970 and is presently protected by both federal and state laws. Population estimates have ranged from several hundred to a few thousand individuals, but these numbers are based on anecdotal and incomplete data. To date, research addressing real population numbers has not been conducted. Before this subspecies can be considered for downlisting to threatened status, more

accurate knowledge of distribution, relative abundance, and habitat needs will be required.

Management: Due to limited and conflicting information regarding Hawaiian hoary bats, critical habitat for this subspecies has not yet been designated. As a result, even the most basic management strategies are difficult to implement. Threats to this species remain unclear, but habitat loss, pesticide use, predation, and roost disturbance are primary concerns. Future research is needed to identify and protect critical roosting and foraging habitat, control predators, and assess other threats.

For Questions or Comments Contact:
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Where to see bats:

During summer months, visitors to the Big Island can observe hoary bats foraging over the ocean at sunset at Pu'u'honua o Hōnaunau NHP. In Hawai'i Volcanoes NP, bats can be seen at Waldron Ledge overlook and along Mauna Loa Strip Road. Hotspots in Maui's Haleakalā NP include Hosmer's Grove and 'Ohe'o Gulch, while those trekking to the top of Kalaupapa NHP's Pali Trail may get a glimpse of them. If acoustic bat detectors are available, tune the device to ~30kHz to eavesdrop on the bats' "echolocation conversations".



The Hawaiian Hoary Bat has been described by some as the teddy bear of North American bats. This one is chomping on a mealworm.

Photograph courtesy of the Honolulu Zoo, with permission.